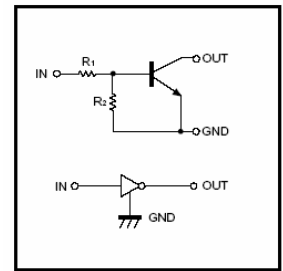


Digital transistors (built-in resistors)

DTC144EM/DTC144EE/DTC144EUA DTC144ECA/DTC144EKA/DTC144ESA

DIGITAL TRANSISTOR (NPN)

●Equivalent circuit

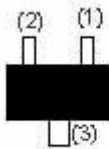


FEATURES

1. Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors(see equivalent circuit)
2. The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects
3. Only the on/off conditions need to be set for operation, making device design easy

PACKAGING AND MARKING

DTC144EE



1.IN
2.GND
3.OUT

SOT-523

Abbreviated symbol: 26

DTC144EUA

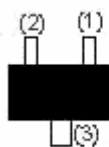


1.IN
2.GND
3.OUT

SOT-323

Abbreviated symbol: 26

DTC144EKA

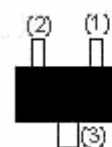


1.IN
2.GND
3.OUT

SOT-23-3L

Abbreviated symbol: 26

DTC144ECA

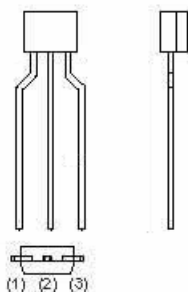


1.IN
2.GND
3.OUT

SOT-23

Abbreviated symbol: 26

DTC144ESA



1.GND
2.OUT
3.IN

TO-92S

DTC144EM



1.IN
2.GND
3.OUT

SOT-723

Abbreviated symbol: 26

Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Limits (DTC144E)						Unit
		M	E	UA	CA	KA	SA	
Supply voltage	V _{CC}	50						V
Input voltage	V _{IN}	-10~40						V
Output current	I _O	30						mA
	I _{C(MAX)}	100						
Power dissipation	P _d	100	150	200			300	mW
Junction temperature	T _j	150						℃
Storage temperature	T _{stg}	-55~150						℃

Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input voltage	$V_{I(off)}$	0.5			V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$			3		$V_O=0.3V, I_O=2mA$
Output voltage	$V_{O(on)}$			0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	I_I			0.18	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	μA	$V_{CC}=50V, V_I=0$
DC current gain	G_I	68				$V_O=5V, I_O=5mA$
Input resistance	R_1	32.9	47	61.1	K Ω	
Resistance ratio	R_2/R_1	0.8	1	1.2		
Transition frequency	f_T		250		MHz	$V_O=10V, I_O=5mA, f=100MHz$

Typical Characteristics

DTC144ECA

